Meeting Minute Approval Sheet 0057194

222-S Project Managers Meeting & Misc. Lab Issues (TSD: TS-2-1)

2704HV/Room G-229
April 25, 2002
9:30 – 10:00 p.m.

DOE: _____ 5/23/02
Jamie Zeisloft Date

ECOLOGY: _____ 05-23-02
Fred Jamison Date

MEETING MINUTES

222-S Project Manager's Meeting and Miscellaneous Lab Issues (TSD:TS-2-1)
4/25/2002

Meeting Attendees:

Jamie Zeisloft, RL	Dee Lloyd, RL	Tracy Gao, Ecology
Jay Warwick, FH	Lucinda Borneman, FH	

Introduction:

Mr. Jamie Zeisloft called the meeting to order at 9:30 a.m.

Approval of Previous Meeting Minutes:

RL approved the February 28, 2002 meeting minutes. Ms. Gao took the meeting minutes for Ecology's approval.

Status of Action Items:

Action Item: Provide ICAT Audit Report to Ecology
Actionee: LE Borneman
Status:CLOSED. ICAT Audit Reports were given to Ecology. Ecology requested that a follow up meeting be arranged to discuss the audits.

222-S Laboratory TSD Issues

Ecology related that since the negotiations on Modification E to the Hanford Site RCRA Permit have been successfully completed, the 222-S portion of the Hanford Site RCRA Permit is receiving agency attention. The agency expects to either issue the permit or submit it for public comment within the next month.

222-S Laboratory Operations:

Lucinda Borneman, FH presented the 222-S Operations report for March - April, which is attached.

WSCF Laboratory Operations:

Jay Warwick, FH, presented the WSCF monthly operations report, which is attached.

Miscellaneous Issues
No issues were raised for discussion.

Next Meeting: May 22, 2002, 9:30 am, 2704 HV.

222-S Project Managers Meeting & Misc. Lab Issues (TSD: TS-2-1)
4/25/02

Attachment 1
List of Attendees
Action Items
Other Handouts

222-S Project Managers Meeting & Misc. Lab Issues
April 25, 2002
9:30 – 10:00 a.m.

ATTENDEES

Name	Affiliation	MSIN	Phone
Lucinda Borneman	FH AS		373-2821
Travis Gano	Ecology	B5-18	736-5718
Jay Warwick	FH/[illegible]	S3-30	373-7076
Jamie Zeisloft	RL/OSS	A2-15	372-0128
Dee W. Lloyd	RL/DOE	A2-58	372-2299

222-S Project Managers Meeting & Misc. Lab Issues

2704HV/Room G-229
April 25, 2002
9:30 – 10:00 p.m.

Draft Agenda

I. Introductions

II. Approval of Previous Meeting Minutes

III. Status of Action Items

IV. 222-S TSD Issues

V. 222-S Laboratory

- Operational Report
- Collodion Corrective Measure/Update
- ICAT Audit

VI. WSCF Laboratory

- Operational Report

VII. Misc. Issues

VIII. Review of New Action Items

Fluor Hanford
P.O. Box 1000
Richland, Washington 99352

FLUOR

FH-0201708

Mr. D. J. Stroup, Manager
Assessments and Quality Programs
Bechtel Hanford, Inc. H0-16
3350 George Washington Way
Richland, Washington 99352

Dear Mr. Stroup:

APB-ICAT: AUDIT REPORT OF FLUOR HANFORD, ANALYTICAL SERVICES' WASTE SAMPLING AND CHARATERIZATION FACILITY, (BHI-ARQP-02-03) CORRECTIVE ACTIONS

Reference: Letter, D. J. Stroup, BHI, to D. D. Volkman, FH, "APB-ICAT: Audit Report of Fluor Hanford, Analytical Services' Waste Sampling and Characterization Facility, (BHI-ARQP-02-03)," 097436, dated March 18, 2002.

Fluor Hanford has received and evaluated the Integrated Contractor Assessment Team (ICAT) audit report of the Waste Sampling and Characterization Facility (WSCF) (Reference).

Attached are WSCF's corrective actions in response to the six findings and five observations identified in the ICAT BHI-ARQP-02-03 audit. The transmittal of this attachment completes the request to provide responses to the ICAT Audit Lead Teams.

If you have any questions or requests for additional information please feel free to contact C. M. Seidel at 373-5211.

Respectfully,

D. D. Volkman, Acting Director
Quality Assurance

kcp

Fluor Hanford
P. O. Box 1000
Richland, WA 99352

FLUOR

Memorandum

To:	D. D. Volkman	A3-06	Date:	April 10, 2002
From:	J. D. Wood	H7-20	Telephone:	372-0499

cc:

D. E. Adams	H7-20
R. L. Bisping (per telecon)	S3-30
S. L. Fitzgerald	S3-30
M. F. Marcus	S3-30
D. S. Merry	H7-20
H. K. Meznarich	S3-30
J. L. Nuzum	S3-30
D. L. Renberger (per telecon)	S3-30
C. M. Seidel (per telecon)	T6-14
R. D. Warriner	R3-32
JDW File/LB	H7-20

Subject: APB-ICAT: AUDIT REPORT OF FLUOR HANFORD, ANALYTICAL SERVICES' WASTE SAMPLING AND CHARACTERIZATION FACILITY, (BHI-ARQP-02-03)

Reference: Letter, D. J. Stroup, BHI, to D. D. Volkman, FH, same subject, (BHI: 097436), dated March 18, 2002.

I would like to thank the Integrated Contractor Assessment Team (ICAT) that conducted the February 25 through March 4, 2002, Hanford Analytical Services Quality Assurance Requirements Document audit for their review and assistance in identifying opportunities for Analytical Services to strengthen analytical processes and quality systems. The following response in regards to the ICAT audit of the Waste Sampling and Characterization Facility (WSCF) Laboratory has been prepared, as requested in the referenced letter.

The audit team identified six findings that have received an initial review by Analytical Services. The results of that review are documented on the attached forms, as requested by the ICAT audit team. The forms document the preliminary assessment of the root cause, an assessment of actions necessary to correct past practices, a preliminary review as to the need for additional assessments, and a list of corrective actions as required. The corrective actions fall into three categories: (1) immediate actions to correct or stop the deficient condition, (2) immediate actions required to prevent any undesirable event, development, and implementation of procedure modifications, and (3) a review of the corrective actions to ensure they have accomplished the desired result was also performed. All findings identified in the referenced

FLUOR

report will be processed through formal deficiency evaluation, as required by our corrective action process HNF-PRO-052. This process will include a more detailed investigation and documentation of the root cause and may result in the identification of additional corrective actions. Members of the ICAT audit team will be invited to attend and take an active role in these formal deficiency evaluations.

The audit team identified five observations that Analytical Services has prescreened, and we agree that the items, while not deficiencies, do represent opportunities for process improvements. The results of that review are also documented on the attached forms, as requested by the ICAT audit team, including the actions identified to implement these process improvements.

If you have questions or requests for additional information, please contact Cary M. Seidel at 373-5211.

mcr

Attachment

ATTACHMENT

ERC QUALITY ASSURANCE LABORATORY AUDIT FINDING REPORTS

AND

ERC QUALITY ASSURANCE AUDIT OBSERVATION REPORTS

Consisting of 18 pages,
including cover page

HANFORD

ERC QUALITY ASSURANCE
LABORATORY AUDIT FINDING REPORT

AUDIT NO.: BHI ARQP-02-03 **FINDING NO.: 01** **PAGE 1 of 2**
ORGANIZATION: WSCF Laboratory **AUDITOR: Rich Weiss**
RESPONSE DUE DATE: April 15, 2002

REQUIREMENT(S):

Requirement: HASQARD Vol. 4, Section 6.1.2, states, "Each laboratory shall monitor the quality of gasses used in the laboratory to ensure that they are adequate for the operation being performed." HNF-SD-QAPP-017, Section 11.1.3; Compressed Gases/Reagents; "Percent purity levels necessary for quality analysis are listed in each analytical procedure."

FINDING: No specification for purity of gases found in procedures.

Background:

No specification for purity of gases could be found in procedures LA-505-411, *Elemental Analysis by ICP* or LA- 508-415, *Operation Of The Protean 2-Inch Alpha/Beta Counting System For Gross Alpha/ Beta Samples.*

SIGNIFICANT FINDING: Yes ☐ No ☒

Evaluated by:_____ _____
Lead Auditor Date

VERIFICATION ACTIONS/COMMENTS:

Audit No.: BHI ARQP-02-03	Finding No.: 01	Page 2 of 2

Analytical Services Response to Finding No. 01:

The laboratory currently controls the quality of gasses used through the procurement system, which ensures a minimum standard for analytical operations is procured. The requirement in the QAPP that the "Percent purity levels necessary for quality analysis are listed in each analytical procedure" is a good practice that is not currently being met. LA-505-411, *Elemental Analysis by ICP* and LA- 508-415, *Operation Of The Protean 2-Inch Alpha/Beta Counting System For Gross Alpha/ Beta Samples* will be revised to include this information.

What was the root cause of this audit Finding?

Management failed to adequately define, implement, and enforce all requirements.

2) Has any Hanford samples analysis been affected? If so, please describe.

No sample analysis has been affected by this item.

3) Do similar problems exist in other areas of work?

There is a potential that the gas purity levels are not described in other applicable analytical procedures. The laboratory staff will do a detailed review of procedures that require the use of Compressed Gases to determine where additional revisions are required to include purity statements.

4) What actions have been or will be taken to correct the problem(s) and prevent recurrence.

1. Revise procedures LA-505-411 and LA-508-415 to include gas quality requirements (Complete).
2. Review other WSCF procedures, which require the use of gases as reagents to determine what additional modifications are necessary (to be completed by June 30).
3. Implement modifications identified in item #2 by October 1, 2002.

5) When will the corrective actions be completed?

See item number 4.

Concurrence Laboratory QA Manager: Thuei Weymouth for R L Bisping

Response Accepted:

Lead Auditor/Date

Finding Closed: _____

Lead Auditor/Date

HANFORD

ERC QUALITY ASSURANCE
LABORATORY AUDIT FINDING REPORT

AUDIT NO.: BHI ARQP-02-03 **FINDING NO.: 02** **PAGE 1 of 2**
ORGANIZATION: WSCF Laboratory **AUDITOR: Rich Weiss**
RESPONSE DUE DATE: April 15, 2002

REQUIREMENT(S):

HASQARD Vol. 4, Section 6.1.3; "The acceptability of standards used in the preparation and analysis of client samples shall be verified. Each laboratory shall document its method(s) of verification.

FINDING:.Management of standards not adequately addressed in QAPP

Background:

HNF-SD-QAPP-017, Section 11.1.2 does not effectively address preparation and/or analysis standards (section 7.2 does appropriately address calibration standards).

Additionally, the section references ASP-310, Section 4.17 this procedure has been cancelled.

SIGNIFICANT FINDING: Yes ☐ No ☒

Evaluated by:_____ _____
Lead Auditor Date

VERIFICATION ACTIONS/COMMENTS:

Audit No.: BHI ARQP-02-03	Finding No.: 02	Page 2 of 2

Analytical Services Response to Finding No. 02:

ASP-310, Section 4.17 was cancelled on February 7, 2002 after the QAPP-017 revision was drafted for review. This reference has been deleted in HNF-SD-CP-QAPP-017, revision 5. The reference to ASP-310 was removed from QAPP-017 and statement added to the section regarding the WSCF established policy on using the ACS grade or better (unless this quality is not available) for the reagent and chemicals used for analyses. As Analytical and Operational procedures are revised they will be checked to determine if revisions are necessary to enhance the specific procedure's reagent section to include material quality requirements for individual reagents.

1) What was the root cause of this audit Finding?

When ASP-310, Section 4.17 was cancelled the requirement for defining the quality of laboratory reagents was not incorporated into other WSCF procedures.

This immediate cause not root cause.

2) Has any Hanford samples analysis been affected? If so, please describe.

This item has affected no sample analyses or data.

3) Do similar problems exist in other areas of work?

No other similar issues have been identified.

4) What actions have been or will be taken to correct the problem(s) and prevent recurrence.

1. The HNF-SD-CP- QAPP-017, section 11.1.2 will be revised to include the quality requirements for laboratory reagents and working standards.

5) When will the corrective actions be completed?

1. Completed. Revision 5 will be released by April 30, 2002

Concurrence Laboratory QA Manager: Kui Meynard for R L Bisping

Response Accepted:

Lead Auditor/Date

Finding Closed: ______________________

Lead Auditor/Date

HANFORD

ERC QUALITY ASSURANCE
LABORATORY AUDIT FINDING REPORT

AUDIT NO.: BHI ARQP-02-03 **FINDING NO.: 03** **PAGE 1 of 2**
ORGANIZATION: WSCF Laboratory **AUDITOR: Rich Weiss**
RESPONSE DUE DATE: April 15, 2002

REQUIREMENT(S):

HASQARD Vol. 4, Section 6.4.2; This section identifies criteria for method (preparation) blank acceptance. The three criteria in HASQARD are replicated in HNF-SD-CP-QAPP-017, Section 11.2.1.2 with a 4th criteria; "client specific data quality requirements".

FINDING: No method described for transmitting client specific requirements to analyst noted.

Background:

Procedure LA-505-411 (ICP) only identifies "client specific data quality requirements" as a blank criteria. No formalized methodology for transmitting client-specific requirements to the working level of the laboratory was observed. This can readily lead to misinterpretation of applicable criteria. Additionally, any of the other three criteria specified in HNF-SD-CP-QAPP-017 should be more appropriate for "routine" acceptance criteria.

SIGNIFICANT FINDING: Yes ☐ No ☒

Evaluated by:_____ _____
Lead Auditor *Date*

VERIFICATION ACTIONS/COMMENTS:

Audit No.: BHI ARQP-02-03	Finding No.: 03	Page 2 of 2

Analytical Services Response to Finding No. 03:

Customer requests are relayed to the working level of the laboratory by attaching copies of the chain of custodies to analysis sheets. LA-505-411 will also be revised to use the HASQARD requirements as the default blank criteria to clarify that, when there are not specific requirements defined by the client the HASQARD defined requirements are the minimum standard.

1) What was the root cause of this audit Finding?

Management failed to adequately define and implement the HASQARD requirements.

2) Has any Hanford samples analysis been affected? If so, please describe.

The current standards in LA-505-411 exceed the defined standards in HASQARD. The only impact to sample analysis is that some samples may have been flagged as having high blanks when they were within the acceptance criteria defined in HASQARD.

3) *Do similar problems exist in other areas of work?*

No.

4) What actions have been or will be taken to correct the problem(s) and prevent recurrence.

Procedure LA-505-411 will be revised to use the HASQARD requirements as the default blank criteria, and to address acceptance criteria or direct action that must be taken when the blank is outside of the acceptable limits. (Due by June 30, 2002)

5) When will the corrective actions be completed?

See item #4 above.

Concurrence Laboratory QA Manager: Hwei Megnaint for RL Bisping

Response Accepted:

Lead Auditor/Date

Finding Closed: _____

Lead Auditor/Date

HANFORD

ERC QUALITY ASSURANCE
LABORATORY AUDIT FINDING REPORT

AUDIT NO.: BHI ARQP-02-03 **FINDING NO.: 04** **PAGE 1 of 2**
ORGANIZATION: WSCF Laboratory **AUDITOR: Rich Weiss**
RESPONSE DUE DATE: April 15, 2002

REQUIREMENT(S):

HNF-SD-CP-QAPP-017, Section 11.0; "If no specifications of QC listed in the regulatory or non-regulatory method is used for analysis, HASQARD QC requirements (Table 6.1-6.8, Volume 4) for appropriate instrument (sic) are followed". HASQARD Vol. 4, Section 6.2.2, Table 6.1 specifies matrix spike recovery criteria of 75-125% or statistical.

FINDING:.WSCF specifies different acceptance criteria then HASQARD.

Background:

HNF-SD-CP-QAPP-017, Section 11.4.1.4 and LQ-543-410 (DRAFT) identify matrix spike recovery criteria at 60-140%. In addition, it was noted that LQ-543-410 (DRAFT) does not specify a frequency rate for matrix spike samples.

SIGNIFICANT FINDING: Yes ☐ No ☒

Evaluated by: _____ _____
Lead Auditor **Date**

VERIFICATION ACTIONS/COMMENTS:

Audit No.: BHI ARQP-02-03	Finding No.: 04	Page 2 of 2

Analytical Services Response to Finding No. 04:

HNF-SD-CP-QAPP-017, Section 11.4.1.4 and LQ-543-410 (DRAFT) will be revised to reflect that HASQARD directed QA/QC requirements shall be followed as the minimum requirements unless the laboratory client directs the laboratory to use an alternate standard in the analytical work instructions.

Matrix spike recovery is matrix-dependent; HASQARD provides a recommended range 75-125% (also allow statistical established limits). The frequency and control limits, for matrix spike recovery of 75 – 125%, have been included in the Draft of LQ-543-410.

1) What was the root cause of this audit Finding?

There was a misunderstanding on the HNF-SD-CP-QAPP-017, Section 11.4.1.4. The level of 60 – 140% is the recommended spiking activity level relative to the sample activity, not the spiking recovery. The statement in the procedure being unclear causes this confusion.

2) Has any Hanford samples analysis been affected? If so, please describe.

No sample analysis affected

3) Do similar problems exist in other areas of work?

No

4) What actions have been or will be taken to correct the problem(s) and prevent recurrence.

1. HNF-SD-CP-QAPP-017, section 11.4.1.4 will be revised to clearly reflect spiking requirements defined in HASQARD.

2. The new release of LQ-543-410 will address the frequency of matrix spike analysis and matrix spike recovery (75-125%) as directed by HASQARD.

5) When will the corrective actions be completed?

1. HNF-SD-CP-QAPP-017, revision 5 will be issued by April 30, 2002

2. Will be completed by July 31, 2002

Concurrence Laboratory QA Manager: Hui Meyrain for RL Bisping

Response Accepted:

Lead Auditor/Date

Finding Closed: _____

Lead Auditor/Date

HANFORD

ERC QUALITY ASSURANCE
LABORATORY AUDIT FINDING REPORT

AUDIT NO.: BHI ARQP-02-03 **FINDING NO.: 05** **PAGE 1 of 2**
ORGANIZATION: WSCF Laboratory **AUDITOR: Larry Markel**
RESPONSE DUE DATE: April 15, 2002

REQUIREMENT(S):

HASQARD, Volume 1, Section 10.1, which states, "Managers shall assess their management practices" and "Management Systems assessments shall be conducted annually at a minimum."

FINDING: Lack of Management Assessment for two Managers.

Background:

Analytical Services Fiscal Year 2002 Management Assessment Plan and Schedule does not include management assessments for the Project Support and Performance Assurance Managers.

ASP-200, Section 1.2 (Part 1.2) states "...Management assessments require managers at every level to periodically assess the performance of their organization and functions to determine how well performance meets customer requirements, expectations, and mission objectives, so that improvements can be made. The FY 2002 management plan should be revised to include assessments for these two managers.

SIGNIFICANT FINDING: Yes ☐ No ☒

Evaluated by: _____ _____
Lead Auditor Date

VERIFICATION ACTIONS/COMMENTS:

Audit No.: BHI ARQP-02-03	Finding No.: 05	Page 2 of 2

Analytical Services Response to Finding No. 05:

Both the Project Support and Performance Assurance Managers have planned to perform assessments on their operations in FY 2002. Omission of these groups from the management assessment schedule was an oversight.

1) What was the root cause of this audit Finding?

The omission of the planned assessments from the assessment scheduled is not a non-compliance with HASQARD as long as the required assessments are performed in FY 2002 as required.

2) Has any Hanford samples analysis been affected? If so, please describe.

No Sample analysis has been impacted by this item.

3) Do similar problems exist in other areas of work?

Other group assessments are being planned and performed.

4) What actions have been or will be taken to correct the problem(s) and prevent recurrence.

1. Project Support will assess Property Review/Walkdown - Resource Allocation — Due June 30, 2002
2. Performance Assurance will assess Method Assessment Program — Due September 30, 2002

As long as these assessments take place as planned there is no non-compliance.

5) When will the corrective actions be completed?

None required

Concurrence Laboratory QA Manager: Hieu Nguyen for R.L. Bisping

Response Accepted:

Lead Auditor/Date

Finding Closed: _____

Lead Auditor/Date

HANFORD

ERC QUALITY ASSURANCE
LABORATORY AUDIT FINDING REPORT

AUDIT NO.: BHI ARQP-02-03 FINDING NO.: 06 PAGE 1 of 2
ORGANIZATION: WSCF Laboratory AUDITOR: Larry Markel
RESPONSE DUE DATE: April 15, 2002

REQUIREMENT(S):

HASQARD, Volume 1, Section 10.4, states in part "...Data quality assessments are independent evaluations of the data reported to a client, ...Each organization or program shall establish a frequency for such evaluations..."

FINDING: No specified frequency for QA Data Review.

Background:

QAPP-017, Section 13.4, "Data Quality Assessments" and ASP-315, Section 9.3, "WSCF Laboratory Data Review" both the QA Plan and the procedure fail to identify the frequency of data quality reviews by Quality Assurance.

The ASP-315 procedure refers Quality Assurance to, "Perform reviews in accordance with the QAPP." The WSCF QA Plan Section 13.4, states "Data quality assessments (also include data review) are performed by the QA Officer." Which continues with information about deficiencies and corrective action with no mention as to addressing frequency requirements.

SIGNIFICANT FINDING: Yes ☐ No ☒

Evaluated by:_____ _____
Lead Auditor Date

VERIFICATION ACTIONS/COMMENTS:

Audit No.: BHI ARQP-02-03	Finding No.: 06	Page 2 of 2

Analytical Services Response to Finding No. 06:

The frequency of data quality assessment (at a minimum of 5%) was included in the earlier version of ASP315, section 9.3. The frequency was deleted during procedural revision by another organization.

1) What was the root cause of this audit Finding?

Inattention to detail during procedural revision.

2) Has any Hanford samples analysis been affected? If so, please describe.

No sample affected.

3) Do similar problems exist in other areas of work?

No.

4) What actions have been or will be taken to correct the problem(s) and prevent recurrence.

1. The frequency of the data quality assessment has been added in Section 13.4, HNF-SD-CP-QAPP-017, and revision 5. HNF-SD-CP-QAPP-017, revision 5 has been reviewed and is in the process to be released.
2. Disseminate document review requirements to Analytical staff.

5) When will the corrective actions be completed?

1. HNF-SD-CP-QAPP-017, revision 5 will be issued by April 30, 2002.
2. Will be completed by June 3, 2002

Concurrence Laboratory QA Manager: Akei Meyamichi for R L Bisping

Response Accepted:

Lead Auditor/Date

Finding Closed: _____

Lead Auditor/Date

HANFORD

ERC QUALITY ASSURANCE AUDIT OBSERVATION REPORT

AUDIT NO.: BHI ARQP-02-03 OBSERVATION NO.: 01 PAGE 1 of 1
ORGANIZATION: WSCF Laboratory AUDITOR: C. Stacey
RESPONSE DUE DATE: April 15, 2002

Description of Observation:. No documentation that control charts were being reviewed for trends.

Discussion:

WSCF procedure LQ-150-401, Rev. A-0, Section 8.1.1, the responsible scientist/chemist shall periodically review control charts for patterns and trends indicative of an unstable process. Review of control charts generated in the organic section, for surrogates and MS/MSD, and IH section, Be in filters, indicated on several occasions that the control charts showed a trend by having 8 or more consecutive points above or below the mean. There was no documentation to indicate that the scientist/chemist had taken note of the anomalies indicated by the control charts.

Two points on the IH Pb % Recovery for Control Standards control chart were outside the control limits high. There was no documentation that the laboratory reviewed these points for causes.

Corrective Action/Comment:

Control charts for analytical methods are maintained and available for review in the analytical LIMS database. (LABCORE). WSCF recognizes that there is no documentation of the review of these electronic files and that this lack of documentation could be interpreted that in some cases the reviews may not be occurring in a timely manner.

A process to automatically print control charts on a periodic bases will be established for each method. The review comments for each control chart including analysis of any pertinent trends will be documented on the charts by the technical authority. The charts will be maintained in a controlled file or logbook by the laboratory Technical Authority for future reference with oversight by the laboratory QA Officer.

When will the actions be completed?

This action will be completed on or before June 30, 2002.

Response Accepted: _____
Lead Auditor/Date

HANFORD

ERC QUALITY ASSURANCE AUDIT OBSERVATION REPORT

AUDIT NO.: BHI ARQP-02-03 **OBSERVATION NO.: 02** **PAGE 1 of 1**
ORGANIZATION: WSCF Laboratory **AUDITOR: C. Stacey**
RESPONSE DUE DATE: April 15, 2002

Description of Observation: No documentation that out of balance calibration points was acceptable.

Discussion:

Review of the balance calibration data for 8/13/01 indicated that the "as found" condition for balance number LE-BAL-02-NL was out of the tolerance limits established by the laboratory. There was no documentation that the "out of tolerance" points were reviewed for effect on laboratory data quality.

Corrective Action Taken:

The "out of tolerance" points have been reviewed and documented in the balance notebook (Complete).
The laboratory personnel responsible for reviewing balance calibration data have been counseled about proper documentation of these reviews (complete).

When will the actions be completed?

See above.

Response Accepted: _____
Lead Auditor/Date

HANFORD

ERC QUALITY ASSURANCE AUDIT OBSERVATION REPORT

AUDIT NO.: BHI ARQP-02-03 **OBSERVATION NO.: 03** **PAGE 1 of 1**
ORGANIZATION: WSCF Laboratory **AUDITOR: R. Weiss/R. Bisping**
RESPONSE DUE DATE: April 15, 2002

Description of Observation: Labeling did not conform to laboratory procedure requirements.

Discussion:

Procedure LO-120-401, *Proper Labeling and Recertification of Chemicals, Standards, and Reagents at WSCF Complex,* defines rigid requirements for marking and labeling reagents and working standards. Examples were noted in the metals, ion chromatography and radiochemistry preparation area where labeling was in violation of the laboratory procedure requirements. The requirements for maintenance and traceability or standards/reagents established by HASQARD were met, but documentation could be clarified. The Audit Team recommends that the laboratory revise LO-120-401 to reflect more achievable requirements and ensure adequate information is placed on the working standards to ensure traceability of standards from stock to current working standards. (The laboratory partially addressed the observation by counseling the laboratory staff on the requirements for proper labeling of reagents. The laboratory needs to review/revise the procedure.)

Corrective Action Taken:

The procedure for labeling reagents and standards at WSCF is LO-120-401. This procedure will be modified to change our labeling practice to conform with HASQARD and the laboratory Chemical Hygiene plan as follows:

6.1.2 WHEN transferring a chemical reagent or standard to a secondary container for other than immediate (same shift) use,
LABEL the container with the following minimum information:

- Name of chemical, reagent, or standard
- Date prepared and initials of preparer
- Procedure number (if applicable)
- Final concentration or composition
- Expiration date or shelf life (if applicable).

A provision will be added to allow tracking the information using logbooks and code identifiers, where containers are too small to attach labels that contain all the required data.

When will the actions be completed?

Action is to be completed by June 30, 2002.

Response Accepted: _____
Lead Auditor/Date

HANFORD

ERC QUALITY ASSURANCE AUDIT OBSERVATION REPORT

AUDIT NO.: BHI ARQP-02-03 **OBSERVATION NO.: 04** **PAGE 1 of 1**
ORGANIZATION: WSCF Laboratory **AUDITOR: R. Weiss**
RESPONSE DUE DATE: April 15, 2002

Description of Observation: HASQARD criteria are more restrictive than current laboratory proctice.

Discussion:

Procedure LA-505-411 should be revised to include identification of areas where HASQARD criteria are more restrictive than current lab practice. The format used for procedure LA-505-412 *Determination Of Trace Elements In Waters And Wastes By ICP-MS* is a good model for this. Noted areas where LA-505-411 different from HASQARD include; preparation blank acceptance criteria, per batch requirement for serial dilution analysis, and the specific location of interference check standards (after Initial Calibration verification/Initial Calibration Blank and before final Continuing Calibration Verification/Continuing Calibration Blank).

Corrective Action Taken:

1. WSCF has conducted an assessment of LA-505-411 to identify where the procedure does not meet HASQARD requirements. (Complete)

2. Analytical Chemistry revised the procedure to meet HASQARD requirements were applicable. Areas where HASQARD is more restrictive have been documented using the same format found in LA-505-412. (Complete)

When will the actions be completed?

Complete

Response Accepted: _____
Lead Auditor/Date

HANFORD

ERC QUALITY ASSURANCE AUDIT OBSERVATION REPORT

AUDIT NO.: BHI ARQP-02-03 **OBSERVATION NO.: 05** **PAGE 1 of 1**
ORGANIZATION: WSCF Laboratory **AUDITOR: C. Stacey**
RESPONSE DUE DATE: April 15, 2002

Description of Observation:. The laboratory did not have a procedure for the management of laboratory notebooks.

Discussion:

It was noted during the audit that several notebooks had custodians assigned that had left the laboratory. It was also noted, on sporadic bases, that corrections did not meet the requirements specified in the HASQARD, i.e., changes not dated or initialed, changes being marked over and obliterated. The laboratory did not have a procedure for the management of laboratory notebooks. Laboratory notebooks are quality records and needs to be managed as such. (This issue was been partially addressed by the laboratory reviewing the correct way to make corrections in quality records with the laboratory staff.)

Corrective Action Taken:

At WSCF the management of laboratory notebooks is covered in ASP-315 Section 1.4 "WSCF Laboratory Records System." This procedure does address the management storage and disposition of Laboratory Notebooks. The procedure doesn't address the correct method for editing and making corrections to data contained in these notebooks.

HASQARD requires in Volume 1 section 6.1
Documents designated to become quality records shall be legible, accurate, complete, and appropriate to the work accomplished. Corrections to documents that will become quality records shall be made by drawing one line through the error, initialing and dating the error, and justifying the correction (if not self-explanatory).

WSCF agrees notebooks are quality records and improvements are needed in this area.

WSCF commits to the following actions.

1. Review laboratory notebooks and correct any deficiencies related to ASP-315 Section 1.4.
2. Add verbiage to ASP-315 addressing the correct method for editing and making corrections to data in notebooks.
3. Council analytical staff on correct process for editing and maintaining notebooks.

When will the actions be completed?

1) May 15, 2002
2) June 30, 2002
3) Complete

Response Accepted: _____
Lead Auditor/Date

Fluor Hanford
P.O. Box 1000
Richland, Washington 99352

FLUOR

FH-0201063 R1

Mr. D. J. Stroup, Manager
Assessments and Quality Programs
Bechtel Hanford, Inc. H0-16
3350 George Washington Way
Richland, Washington 99352

Dear Mr. Stroup:

APB-ICAT: AUDIT REPORT OF FLUOR HANFORD, ANALYTICAL SERVICES 222-S LABORATORY, (BHI-ARQP-02-02) CORRECTIVE ACTIONS

Reference: Letter, D. J. Stroup, BHI, to D. D. Volkman, FH, "APB-ICAT: Audit Report of Fluor Hanford, Analytical Services' 222-S Laboratory, (BHI-ARQP-02-02)," 096940/0201063, dated February 28, 2002.

Fluor Hanford has received and evaluated the Integrated Contractor Assessment Team (ICAT) audit report of the Analytical Services 222-S Laboratory (Reference).

Attached are Analytical Services's corrective actions in response to the six findings and six observations identified in the ICAT BHI-ARQP-02-02 audit. The transmittal of this attachment completes the request to provide responses to the ICAT Audit Lead Teams by March 29, 2002.

If you have any questions or requests for additional information please feel free to contact C. M. Seidel at 373-5211.

Respectfully,

D. D. Volkman, Acting Director
Quality Assurance

kcp

Fluor Hanford
Post Office Box 1000
Richland, Washington 99352

FLUOR

Memorandum

To:	D. D. Volkman	A3-06	Date:	March 20, 2002
From:	J. D. Wood	H7-20	Telephone:	372-0499
cc:	D. E. Adams	H7-20		
	R. L. Bisping	S3-30		
	M. F. Marcus	S3-30		
	D. S. Merry	H7-20		
	D. L. Renberger	S3-30		
	C. M. Seidel	T6-14		
	R. D. Warriner	R3-32		
	JDW File/LB	H7-20		

Subject: APB-ICAT: AUDIT REPORT OF FLUOR HANFORD, ANALYTICAL SERVICES' 222-S LABORATORY (BHI-ARQP-02-02)

Reference: Letter, D. J. Stroup, BHI, to D. D. Volkman, FH, same subject, 0201063 (BHI: 096940), dated February 28, 2002.

Analytical Services would like to thank the Integrated Contractor Assessment Team that conducted the February 4-8, 2002, audit for their review and assistance in identifying opportunities to strengthen our analytical processes and quality systems. The following response in regards to the Integrated Contractor Assessment Team audit of the 222-S Laboratory has been prepared, as requested in the referenced letter.

The audit team identified six findings that have received an initial review by Analytical Services. The results of that review are documented on the attached forms, as requested by the ICAT audit team. The forms document the preliminary assessment of the root cause, an assessment of actions necessary to correct past practices, a preliminary review as to the need for additional assessments, and a list of corrective actions as required. The corrective actions fall into three categories: (1) immediate actions to correct or stop the deficient condition, (2) immediate actions required to prevent any undesirable event, development, and implementation of procedure modifications, and (3) a review of the corrective actions to ensure they have accomplished the desired result. All findings identified in the referenced report will be processed through formal deficiency evaluation, as required by our corrective action process HNF-PRO-052. This process will include a more detailed investigation and documentation of the root cause and may result in the identification of additional corrective actions. Members of the ICAT audit team will be invited to attend and take an active role in these formal deficiency evaluations.

FLUOR

The audit team identified six observations that Analytical Services has prescreened, and we agree that the items, while not deficiencies, do represent opportunities for process improvements. The results of that review are also documented on the attached forms, as requested by the ICAT audit team, including the actions identified to implement these process improvements.

If you have questions or requests to additional information, please contact Cary M. Seidel at 373-5211.

mcr/dh

Attachment

ATTACHMENT

ERC QUALITY ASSURANCE LABORATORY AUDIT FINDING REPORTS

AND

ERC QUALITY ASSURANCE AUDIT OBSERVATION REPORTS

Consisting of 18 pages,
including cover page

HANFORD

ERC QUALITY ASSURANCE
LABORATORY AUDIT FINDING REPORT

AUDIT NO.: BHI ARQP-02-02 FINDING NO.: 01 PAGE 1 of 2
ORGANIZATION: 222-S Laboratory AUDITOR: R. Weiss
RESPONSE DUE DATE: March 29, 2002

REQUIREMENT(S):

HASQARD identifies in several locations the need to notify the client if the laboratory encounters difficulties in achieving analytical requirements. These include the following:

- Vol. 4, Section 3.2: "The laboratory shall notify the client in writing as soon as possible if the laboratory is unable, for any reason, to meet prescribed holding times."
- Vol. 4, Section 3.3: "The laboratory procedures shall provide for timely notification to the client of a nonconformance which will impact the laboratory's ability to meet agreed upon data quality requirements before proceeding with further work, by telephone, facsimiles, or electronic mail."
- Vol. 4, Section 3.5: " The client shall be contacted for resolution if a chain-of-custody failure is detected."

FINDING: Procedures did not specify client notification.

Background:

Laboratory procedures appear to be incomplete and inconsistent regarding client notification when "problems" are encountered with samples. Examples noted include the following:

- LO-090-101, *Sample Receiving and Custodianship-222-S Laboratory*, Section 6.1.4 and 6.1.5, instructs the lab sample custodian to "Verify the chain-of-custody documentation is complete, legible, and is consistent with the RSA and verify the sample matches RSA and Chain-of-custody..." but does not identify a path to notify the client when anomalies are encountered.
- L0-090-101, Section 6.1.7, instructs the lab sample custodian to; "If upon breakdown/extrusion is determined that the information does not coincide with the RSA or chain-of-custody" to "Lock sample in proper storage area", and "Note in QC logbook and RSA or COC missing or conflicting information." The procedure does not identify a path for client notification.
- L0-150-132, *Sample Storage, Rooms 2E and 2B, and 222-S Laboratory Hot Cells*, Section 6.1, states, "If temperature *(of sample refrigerators)* is out of range, contact management and arrange for alternate refrigerator to store the sample until repairs can be made." The procedure does not identify a path to notify the client.
- Procedure ASP-310, *Administrative*, Section 1.25: "Analytical Project Process Flow" appears to do an adequate job of identifying roles and responsibilities for laboratory/client interaction and notification through planning for sample receipt (sections 4.1) and then remains essentially mute for client notification of problems or issues through the remainder of the receipt and analytical process (except for section 4.23, item 18).

Note: Throughout ASP-310, Section 1.25 are requirements to "Report any unexpected results to the PC..." More and complete examples of the type and nature of the items to be reported should be included, particularly the loss of specific analytical capabilities.

SIGNIFICANT FINDING: Yes ☒ No ☐

Evaluated by: *Original signed by Claude Stacey* *02/21/02*
Lead Auditor Date

VERIFICATION ACTIONS/COMMENTS:

Audit No.: BHI ARQP-02-02	Finding No.: 01	Page 2 of 2

Analytical Services Response to Finding No. 01:
The Analytical Services Roles and Responsibilities are clearly understood that notifications regarding client samples are to be made to the assigned Project Coordinator (PC) and that the client notification is to be made by the Client Services Representative as provided by the PC after review and assessment against the client documentation. These responsibilities have existed as a management expectation and are currently defined in a new procedure, ASP-310 Section 1.25. The laboratory agrees that incorporating the policy directly into the laboratory operating procedures, adding time frames for review and notifications (that define "timely notification") should strengthen this policy. Verbal notifications have been made in a timely manner in the past; however, during a restructuring period last year some written notifications were delayed while newly assigned staff was being trained.

1) What was the root cause of this audit Finding?
No written procedure was in place (as required) that clearly defines the process to perform this activity.

2) Has any Hanford samples analysis been affected? If so, please describe.
All notifications for samples currently in the laboratory have been made as required.

3) Do similar problems exist in other areas of work?
Systems are in place in other analytical areas addressing this issue.

4) What actions have been or will be taken to correct the problem(s) and prevent recurrence.

- The 222-S Laboratory staff will be briefed by their management on Roles and Responsibilities for client notifications. Complete by March 29, 2002.
- LO-090-101, "Sample Receiving and Custodianship – 222-S Laboratory" will be revised to include directions and required timeliness for client notifications for sample nonconformance and chain-of-custody issues. Complete by June 1, 2002.
- LO-150-132, "Sample Storage, Rooms 2E and 2B, and 222-S Laboratory Hot Cells" will be revised to include directions and required timeliness for client notifications for sample nonconformance issues. Complete by June 1, 2002.
- ASP-310, Section 1.25, "Analytical Project Process Flow" will be revised to include directions and required timeliness for client notifications for sample nonconformance issues, prescribed holding times, upon data quality requirements, and other issues. Complete by June 1, 2002.
- The laboratories performance on Client notifications will be reviewed in a Management Assessment conducted in the second quarter of FY 2003.

5) When will the corrective actions be completed?
See item #4.

Concurrence Laboratory QA Manager:_____

Response Accepted:

Lead Auditor/Date

Finding Closed: _____

Lead Auditor/Date

HANFORD

ERC QUALITY ASSURANCE
LABORATORY AUDIT FINDING REPORT

AUDIT NO.: BHI ARQP-02-02 FINDING NO.: 02 PAGE 1 of 2
ORGANIZATION: 222-S Laboratory AUDITOR: R. Weiss.
RESPONSE DUE DATE: March 29, 2002

REQUIREMENT(S):

HASQARD identifies the following requirements for metals analysis using graphite furnace atomic absorption (GFAA):

- Vol. 4, Section 6.5.3, Continuing Calibration Verification (CCV); GFAA acceptance criteria is 90-120 % *(note: HASQARD requirements are actually 90-110%, CMS)*
- Vol. 4, Section 6.5.9: An analytical spike is required for each sample and QC sample for GFAA analysis.

FINDING: Graphite Furnace Atomic Absorption (GFAA) procedure and QAP are inconsistent with the HASQARD requirements.

Background:

Analysis procedure LA-505-102, *Metal Analysis by Graphite Furnace Atomic Absorption (GFAA) Using the Pekin-Elmer 5100P,* identifies a continuing calibration verification (CCV) acceptance criteria of 80%-120% and specifies a "post digest spike" (essentially the same as HASQARD defined analytical spike) only once per analysis batch. The laboratory QAP shows two CCV acceptance criteria, one for RCRA and one for CLP. The CLP limit coincides with the HASQARD limit of 90%-110% and the RCRA less restrictive limit at 80% to 120%. The QAP should specify the HASQARD limit as the default and use other limits when specified by the client.

SIGNIFICANT FINDING: Yes ☐ No ☒

Evaluated by: *Original signed by Claude Stacey* *02/21/02*
Lead Auditor Date

VERIFICATION ACTIONS/COMMENTS:

Audit No.: BHI ARQP-02-02	Finding No.: 02	Page 2 of 2

Analytical Services Response to Finding No. 02:
The inconsistent direction will be corrected. The HASQARD and EPA CLP program specifies CCV control limits of 90%-110% for Graphite Furnace Atomic Absorption. The EPA RCRA (SW-846) control limits for this analysis specify 80%-120% recovery. The RCRA limits will only be used when the customer specifies this direction in the project specific work instructions. While it is recognized the stricter HASQARD requirements will greatly increase the cost of analysis, the laboratory default will be the stricter 90%-110% recovery limits and the HASQARD direction for spiking.

1) What was the root cause of this audit Finding?
HNF-SD-CP-QAPP-016 contains an error due to failure to follow the correct guidance documents.

2) Has any Hanford samples analysis been affected? If so, please describe.

- EPA CLP analyses are not currently being performed at the 222-S Laboratory. The laboratory analytical work falls under the Tri-Party Agreement and the Washington State Department of Ecology programs that are based on RCRA. The effect on reported sample analysis is expected to be minimal as this procedure has little use and the programs being supported are RCRA based. An investigation of past analysis will be required to identify impacted data.

3) Do similar problems exist in other areas of work?
There may be a few other QC protocols in the current revision of QAPP-016 that deviate from HASQARD.

4) What actions have been or will be taken to correct the problem(s) and prevent recurrence.

- A request will be made to the HASQARD Focus Group to update HASQARD to remove unnecessary requirements that add to the cost of the Hanford cleanup mission. Complete by April 30, 2002.
- The Laboratory staff will be instructed that for LA-505-102 the less restrictive RCRA limits of 80 to 120% recovery and post digestion spikes in lieu of analytical spikes will only be used when the customer specifies this direction in the work instructions. Complete by March 29, 2002.
- An investigation analyses performed in the last 24 months will be required to identify impacted data. Laboratory Clients with impacted data will be notified and asked to assess the impact on their projects. The assessment of the data against the project requirement and Client notifications will be made by April 22, 2002.
- HNF-SD-CP-QAPP-016 will be revised to comply with HASQARD requirements. Complete by May 31, 2002.
- LA-505-102 will be revised to comply with HASQARD and the revised QAPP. Complete by May 31, 2002.

5) When will the corrective actions be completed?
See item number 4.

Concurrence Laboratory QA Manager:_____

Response Accepted:

Lead Auditor/Date

Finding Closed: _____

Lead Auditor/Date

HANFORD

ERC QUALITY ASSURANCE
LABORATORY AUDIT FINDING REPORT

AUDIT NO.: BHI ARQP-02-02 **FINDING NO.: 03** **PAGE 1 of 2**
ORGANIZATION: 222-S Laboratory **AUDITOR: Rich Weiss**
RESPONSE DUE DATE: March 29, 2002

REQUIREMENT(S):

HASQARD Vol. 4, Section 4.4: "Calibration procedures shall be established by the laboratory...."

FINDING: Procedure does not identify calibration of the alpha energy analysis (AEA) detectors.

Background:

The laboratory procedures for alpha energy analysis (AEA) and liquid scintillation counting do not identify calibration activities. The AEA detectors are calibrated using the lab maintenance work order system (effectively a procedurized system) but their operating procedure does not identify this.

SIGNIFICANT FINDING: Yes ☐ No ☒

Evaluated by *Original signed by Claude Stacey* *02/21/02*
Lead Auditor **Date**

VERIFICATION ACTIONS/COMMENTS:

Audit No.: BHI ARQP-02-02	Finding No.: 03	Page 2 of 2

Analytical Services Response to Finding No. 03:

Procedure 2S18006, Revision 5, Change A, "Inspect and Test Alpha Energy Analyzer (AEA) System at 222-S, Room B1-A"; is currently the procedure used to calibrate the Alpha Energy Analysis detectors. While the laboratory agrees that LA-508-161, "Alpha Energy Analysis using the Genie System" should reference the Laboratory Work Control System that contains procedure 2S18006, we can find no requirement or noncompliance for this finding. This finding should be reclassified as an observation for process improvement.

1) What was the root cause of this audit Finding?
NA, There is no noncompliance.

2) Has any Hanford samples analysis been affected? If so, please describe.
No, this issue does not impact analytical data quality.

3) Do similar problems exist in other areas of work?
Other Radiochemistry counting room systems may have calibration procedures documented in the work control system.

4) What actions have been or will be taken to correct the problem(s) and prevent recurrence.

1) LA-508-161 will be revised to incorporate a reference to the calibration procedure in the work control system. Complete by July 2, 2002.
2) The Counting Room procedures will be reviewed for similar items. Complete by July 2, 2002.

5) When will the corrective actions be completed?
See item #4 above.

Concurrence Laboratory QA Manager:_____

Response Accepted:

Lead Auditor/Date

Finding Closed: _____

Lead Auditor/Date

HANFORD

ERC QUALITY ASSURANCE
LABORATORY AUDIT FINDING REPORT

AUDIT NO.: BHI ARQP-02-02 FINDING NO.: 04 PAGE 1 of 2
ORGANIZATION: 222-S Laboratory AUDITOR: Claude Stacey
RESPONSE DUE DATE: March 29, 2002

REQUIREMENT(S):

(1) US EPA SW-846, Method 1311, Section 7.2.11 states in part, "Ambient temperature (i.e., temperature of room in which extraction takes place) shall be maintained at 23 ± 2°C during the extraction period."

(2) US EPA SW-846, Method 1311, Section 7.1.4.2, states in part, "Measure and record the pH."

222-S Laboratory Analytical Procedure LA-544-134, Rev. C-2, dated 06/29/2001, *Toxicity Characteristics Leaching Procedure (TCLP) – Nonvolatile Samples*, Section 8.1.6, line 9, states, "Measure and record the pH."

FINDING: Non-compliant to regulatory requirements for Toxicity Characterization Leaching Procedure (TCLP).

Background:

(1) A review of the Labcore Data Entry Template Worklist# 36333, 36579, 37231, and 36332 indicated that the ambient temperatures for the associated TCLP extractions were 19 and 20 °C. In addition, review of LA-544-134, indicated the procedure is lacking in that it does not specify the required extraction temperature.

(2) There was no record of the slurry pH used for determining the proper extraction solution. In addition, the laboratory should record extracting solution number.

Note: Procedure LA-544-134, Section 8.1.6, line 2 specifies a particle size of 1 mm. This should be a particle size of 1 cm.

SIGNIFICANT FINDING: Yes ☒ No ☐

Evaluated by: *Original signed by Claude Stacey* *02/21/02*
Lead Auditor **Date**

VERIFICATION ACTIONS/COMMENTS:

Audit No.: BHI ARQP-02-02	Finding No.: 04	Page 2 of 2

Analytical Services Response to Finding No. 04:
LA-544-134 states that it is based on (not compliant with) the methodology of SW-846 Method 1311. An Analytical Chemistry review found that the procedure does not meet Analytical Chemistry's expectation for document quality and will be revised. While the suggested improvements are desirable they do not constitute a non-compliance with HASQARD. If the procedure was represented as equivalent to EPA Method 1311 there would be an issue, but this is not the case and the laboratory has consistently notified clients that the procedure deviates from EPA Method 1311. Analytical work done under this procedure was performed to HASQARD and customer directed requirements. Due to the high flow rates requirements for Rad-Con control and building design the laboratory currently does not have the capability of maintaining different controlled ambient conditions for individual methods. The Analytical Chemistry review did find that LA-544-134 was not compliance with ASP-310 Section 8.11, in that the procedure does not have the required listing of deviations from EPA Method 1311.

1) What was the root cause of this audit Finding?
LA-544-134 contains an omission error due to failure to follow the correct guidance documents.

2) Has any Hanford samples analysis been affected? If so, please describe.
The suggested corrections to LA-544-134 do not represent a non-compliance with the quality requirements that the data was produced under. Analytical Services does understand that the lack of the required deviation table may lead to client misunderstanding regarding the extraction temperature and steps will be taken to correct this issue.

3) Do similar problems exist in other areas of work?
Similar issues with our procedures have not been identified. Analytical volumetric calibrations and most temperature sensitive operations require an "Ambient temperature" of 20°C.

4) What actions have been or will be taken to correct the problem(s) and prevent recurrence.
LA-544-134 will be revised to unify the particle size requirements; to add a table of deviations from SW-846 Method 1311; to add a reference to "Joint NRC/EPA Guidance on Testing Requirements for Mixed Radioactive and Hazardous Waste", Federal Register; volume 62, number 224; November 20, 1997, page 62079-62094; and to require to recording of the pH on the sample work list along with the extraction temperature. This revision will include a statement in the body of the procedure regarding the difference and expected impact from extracting at 20°C ± 2°C versus 23°C ± 2°C. Complete this action by May 31, 2002.
The Production Control organization will document the actual extraction temperature in all future client data reports that include data from this procedure. Implement by March 29, 2000.

5) When will the corrective actions be completed?
See item #4 above.

Concurrence Laboratory QA Manager:_____

Response Accepted:
Lead Auditor/Date

Finding Closed: _____
Lead Auditor/Date

HANFORD

ERC QUALITY ASSURANCE
LABORATORY AUDIT FINDING REPORT

AUDIT NO.: BHI ARQP-02-02 FINDING NO.: 05 PAGE 1 of 2
ORGANIZATION: 222-S Laboratory AUDITOR: Larry Markel
RESPONSE DUE DATE: March 29, 2002

REQUIREMENT(S):

HNF-SD-CP-QAPP-016, Revision 5, Section 13.1, *Management Assessments*, this section refers the user to ASP-200, Section 1.2, Assessment *Program,* Part 3.3, Sub-part 5, which states, "Quality Assurance shall provide monthly program activity status reports to management".

FINDING: Quality Assurance has not provided status reports to management on a monthly basis.

Background:

The records reviewed indicate that monthly status reports are not completed or reported to management. Although, *monthly program activity status reports are not a HASQARD management assessment requirement, ASP-200,* Section 1.2, does impose the requirement in the Fluor Hanford Analytical Services Assessment Program, therefore, must be complied with.

SIGNIFICANT FINDING: Yes ☐ No ☒

Evaluated by: *Original signed by Claude Stacey* *02/21/02*
Lead Auditor Date

VERIFICATION ACTIONS/COMMENTS:

Audit No.: BHI ARQP-02-02	Finding No.: 05	Page 2 of 2

Analytical Services Response to Finding No. 05:
This was due to an oversight by the Technical Authority for Analytical Services procedure ASP-200, Section 1.2. When the requirement to continue the monthly program activity status reports to management no longer existed, the Technical Authority did not revise the procedure to reflect this change, as required.

1) What was the root cause of this audit Finding?
Inattention to detail by the Technical Authority of ASP-200, Section 1.2.

2) Has any Hanford samples analysis been affected? If so, please describe.
No

3) Do similar problems exist in other areas of work?
ASP-200 is currently under going a complete review and revision.

4) What actions have been or will be taken to correct the problem(s) and prevent recurrence.

The requirement of providing monthly program activity status reports to management will be removed from the procedure in a new revision.

5) When will the corrective actions be completed?

The procedure will be revised by 3/31/02.

Concurrence Laboratory QA Manager:_____

Response Accepted:

Lead Auditor/Date

Finding Closed: _____

Lead Auditor/Date

HANFORD

ERC QUALITY ASSURANCE
LABORATORY AUDIT FINDING REPORT

AUDIT NO.: BHI ARQP-02-02 FINDING NO.: 06 PAGE 1 of 2
ORGANIZATION: 222-S Laboratory AUDITOR: Larry Markel
RESPONSE DUE DATE: March 29, 2002

REQUIREMENT(S):

HASQARD, DOE/RL-96-68, Volume 1, Rev. 2, Section 10.3, *Performance Evaluation Assessments* states in part, "...and how identified corrective actions will be resolved, as well as the timeframe required for corrective action."

HNF-SD-CP-QAPP-016, Section 13.3, *Performance Evaluation Assessments* states in part, "...and coordination of the corrective action process for 'unacceptable' PE results" and "The causes of 'unacceptable' or outlying PE results need to be investigated and appropriate corrective action initiated."

HNF-SD-CP-QAPP-016, Section 15.1, *Initiation of Corrective Action* states in part, "Examples of conditions (deficiencies) where corrective actions shall be implemented are included in the following: (6th bullet) Failures in performance evaluation sample analysis."

FINDING: Corrective Action files lacked documented evidence of corrective action for the "not acceptable" PE results.

Background:

A review of the 222-S Laboratory PE program indicated that a number of organic compounds were 'not acceptable' (7 out of 53 submitted) in the latest single blind study #WP80. The corrective action files (222-S Laboratory Deficiency Evaluation Index) database was reviewed. There were no records in the database to indicate that corrective actions (e.g., Letter of Observation or Internal Memo) were initiated as part of the required corrective action program.

SIGNIFICANT FINDING: Yes ☐ No ☒

Evaluated by: *Original signed by Claude Stacey* *02/21/02*
Lead Auditor **Date**

VERIFICATION ACTIONS/COMMENTS:

Audit No.: BHI ARQP-02-02	Finding No.: 06	Page 2 of 2

Analytical Services Response to Finding No. 06:
All outlying PE results are investigated by Analytical Chemistry to determine if they are caused by a non-compliance and when appropriate corrective action is initiated to improve analytical processes. Where it is determined that there was no deficiency with requirements the issue is not processed through the CAMS. Instead, corrective action responses are screened to determine if the failure is due to a statistical normality, or a requirement for a minor process improvement. Only failures cased by non-compliance issues are entered into the CAM process. Other issues related to failing PE analyte results are entered into the files of the 222-S Laboratory QA Officer and are addressed as process improvements. The QA Officer continues to maintain these files.

1) What was the root cause of this audit Finding?
The 222-S Laboratory QA Officer files were not reviewed as part of this audit. In order to determine if the current process as documented above is adequate Analytical Services invites the ICAT team to review the 222-S Laboratory QA Officer files.

2) Has any Hanford samples analysis been affected? If so, please describe.
No

3) Do similar problems exist in other areas of work?
No

4) What actions have been or will be taken to correct the problem(s) and prevent recurrence.
QA will continue to use the internal memorandum for requesting corrective actions on failing PE analyte results. When repeated failures of PE results indicate a negative trend, a Letter of Observation will be written to process through the CAMS for corrective actions. HNF-SD-CP-QAPP-016 will be revised to "more clearly" describe the process used to review and address PE sample results. The sixth bullet of Section 15.1 of HNF-SD-CP-QAPP-016 will be revised to state "Repeated failures in performance evaluation sample analysis".

5) When will the corrective actions be completed?
The new revision to HNF-SD-CP-QAPP-016 will be released by March 31, 2002.

Concurrence Laboratory QA Manager:_____

Response Accepted:

Lead Auditor/Date

Finding Closed: _____

Lead Auditor/Date

HANFORD

ERC QUALITY ASSURANCE AUDIT OBSERVATION REPORT

AUDIT NO.: BHI ARQP-02-02 **OBSERVATION NO.: 01** **PAGE 1 of 1**
ORGANIZATION: 222-S Laboratory **AUDITOR: Rich Weiss**
RESPONSE DUE DATE: March 29, 2002

Description of Observation:.

Discussion:
HASQARD Vol. 4, Section 6.2.4; "A matrix spike *(as appropriate to the method)* shall be prepared with each batch of 20 samples..."

LQ-543-101 does not contain any specified frequency for matrix spike analysis for radiochemical analyses.

Corrective Action/Comment:

A matrix spike is not always required, but may be substituted with tracers or carriers. HASQARD Vol. 4, Table 6-1, Footnote 4 states "The decision to perform a spike during or after preliminary preparation shall be based on sample activity levels. This spike requirement may be met using a matrix spike, tracer, or carrier depending on client requirements and considerations discussed in this Section". LQ-543-101 will be revised to add the frequency for matrix spike, tracer, or carrier analyses to assure this issue is addressed for each batch of 20 samples or less.

When will the actions be completed?

This revision to LQ-543-101 will be completed on or before June 15, 2002.

Response Accepted: _____
Lead Auditor/Date

HANFORD

ERC QUALITY ASSURANCE AUDIT OBSERVATION REPORT

AUDIT NO.: BHI ARQP-02-02 **OBSERVATION NO.: 02** **PAGE 1 of 1**
ORGANIZATION: 222-S Laboratory **AUDITOR: R. Weiss**
RESPONSE DUE DATE: *March 29, 2002*

Description of Observation:

Discussion:

The laboratory specifies purified P-10 gas for it's analytical counting equipment but does not have documented requirements for P-10 purity.

Corrective Action Taken:

LA-508-114 "Operation of Alpha Beta Counting System using PC Control" will be modified to include a statement defining the minimum requirements for the quality of the P-10 gas used for the Alpha Beta counting systems.

When will the actions be completed?

This revision to LA-508-114 will be completed on or before October 1, 2002.

Response Accepted: _____
Lead Auditor/Date

HANFORD

ERC QUALITY ASSURANCE AUDIT OBSERVATION REPORT

AUDIT NO.: BHI ARQP-02-02 OBSERVATION NO.: 03 PAGE 1 of 1
ORGANIZATION: 222-S Laboratory AUDITOR: C. Stacey
RESPONSE DUE DATE: March 29, 2002

Description of Observation:.

Discussion:

Standards and sample extracts are being stored in same refrigerator. In the semi-volatile preparation area, the sample extracts are stored in the same refrigerator as the spiking standards until transferring the sample extracts for analysis. To ensure that there is no contamination of samples or sample extracts samples and standard solutions should not be stored together.

Corrective Action Taken:

Semi-volatile sample extracts and standards will be segregated from each other by storing them in separate refrigerators to ensure there is no contamination of either sample extracts or standards.

An Assessment of current storage capacity will review the need for additional refrigerators for the storage of samples.

When will the actions be completed?

Evaluate assessment and implement actions to segregate standard solution and samples on or before July 15, 2002.

The assessment of storage capacity will be completed on or before March 29, 2002.

Response Accepted: _____

Lead Auditor/Date

HANFORD

ERC QUALITY ASSURANCE AUDIT OBSERVATION REPORT

AUDIT NO.: BHI ARQP-02-02 OBSERVATION NO.: 04 PAGE 1 of 1
ORGANIZATION: 222-S Laboratory AUDITOR: C. Stacey
RESPONSE DUE DATE: March 29, 2002

Description of Observation:.

Discussion:

The standard laboratory monitors the organic standard storage refrigerators and freezer by noting the temperatures of a NIST traceable calibrated thermometer and a non-calibrated digital readout. The technician records the readings from both the thermometers and the digital readouts on a temperature monitor bench-sheet. The Auditors noted that several of the readings recorded for the refrigerators were out side the specified limits. The Standards Laboratory Lead Chemist indicated that the readings that were out were taken from the digital readouts and are not valid readings, do to the digital readers not being accurate. It was not readily apparent from the bench-sheets which reading was associated with which readout device. The laboratory should remove or disconnect the digital read-outs associated with the invalid readings. The Auditor also noted that there was no way to correlate the temperature readings on the bench-sheet with the associated thermometer. The laboratory should note on the bench-sheet the thermometer number associated with the readings.

Corrective Action Taken:

1) Laboratory management will initiate a request to have the digital temperature readouts disconnected. Monitoring of these digital temperatures will be discontinued on or before April 30, 2002.
2) The Laboratory will also start recording on the bench sheet the number of the thermometer associated with the recorded temperature. This process improvement will be implemented on or before July 2, 2002.

When will the actions be completed?

See above.

Response Accepted: _____
Lead Auditor/Date

HANFORD

ERC QUALITY ASSURANCE AUDIT OBSERVATION REPORT

AUDIT NO.: BHI ARQP-02-02 **OBSERVATION NO.: 05** **PAGE 1 of 1**
ORGANIZATION: 222-S Laboratory **AUDITOR: Tilak Verma**
RESPONSE DUE DATE: March 29, 2002

Description of Observation:

Discussion:

The Hanford Site Operation (HSO) Quality Assurance Program Plan was not being implemented. The *Hanford Site Operations (HSO) Quality Assurance Program Plan (QAPP)*, PLN-03-QP-001, Rev. 0 with an effective date of December 13, 2001 specifies that, it is applicable to all HSO facilities, operations and activities. The current QA program at the 222-S laboratory does not implement the HSO QAPP.

Corrective Action Taken:

1) HNF-SD-CP-QAPP-016 will be revised to add the statement that it meets the objectives of the Quality Assurance Program provided in PLN-03-QP-001.

2) PLN-03-QP-001 will be revised to state that HNF-SD-CP-QAPP-016 is used by 222-S Laboratory to implement the requirements of PLN-03-QP-001.

When will the actions be completed?

1) March 31, 2002
2) May 31, 2002

Response Accepted: _____
Lead Auditor/Date

222-S Project Managers Meeting & Misc. Lab Issues (TSD: TS-2-1)
4/25/02

Attachment 2
222-S Lab Operations Report
WSCF Operations Report

MONTHLY OPERATIONS STATUS
222-S LABORATORY
E. C. Vogt
March-April 2002

Participated in the field walkdown for LO-100-151, "Segregate and Manage Solid Laboratory Wastes." The walkdown was completed with several good changes identified that need to be completed. Attendees demonstrated good participation.

Issued ASP-310, 6.4.2, "222-S Laboratory Complex PCB Waste Management." This procedure defines the process for handling polychlorinated biphenyl (PCB) waste in the labs.

RadCon Trailer. Received draft Conditions and Limitations for the RadCon Trailer Notice of Correction (NOC) Approval from the Department of Health (WDOH). 222-S Environmental and Radcon are evaluating the conditions and will provide comments to FH Environment and Regulation (E&R) group.

Operations completed blending of 42,700 gallons of liquid from the 222-S Retention Basin Waste (RBW) tanks and the 207-SL Basin to the Treated Effluent Disposal Facility (TEDF) in support of the 242-A Evaporator run. The liquid was steam condensate that would have been transported by tanker truck to the Effluent Treatment Facility (ETF) if blending was not done.

Operations completed blending of 42,700 gallons of liquid from the 222-S Retention Basin Waste (RBW) tanks and the 207-SL Basin to the Treated Effluent Disposal Facility (TEDF) in support of the 242-A Evaporator run. The liquid was steam condensate that would have been transported by tanker truck to the Effluent Treatment Facility (ETF) if blending was not done.

Savannah River Technical Center (SRTC) Treatability Study Residues. 222-S held a meeting with Richland Operations Office (RL) and Office of River Protection (ORP) to discuss the proposal to return SRTC Treatability Study Residues to the 222-S Laboratory for return to the DST system.

Continued with the Declaration Of Excess process. Packaged the first LLR waste that has gone through the newly identified process in support of removing old/excess equipment from the laboratory. 1.On April 11, 2002, the three parties to the Collodion matter [Ecology, Department of Energy (DOE), and Fluor Hanford (FH)] agreed to enter into six weeks of collaborative negotiations beginning on May 14, 2002, in an effort to resolve the dispute. In addition to agreeing to enter into the collaborative negotiations, the parties agreed that the primary issues to be addressed in the negotiations are: 1) "When does a material become a waste? " and 2) "At what point is a material designated as a waste?" Additionally, the parties agreed that the negotiations would proceed regardless of the

outcome of the then-pending summary judgment motion filed by Richland Operations Office (RL)/FH.

Issued the first Container Specific Approvals for discharge of Toxic Substance Control Act (TSCA)-regulated analytical waste this week. The discharge of this TSCA waste to the 219-S tank system is a significant step forward in the continuing waste management improvements at 222-S. CHG concurred with the Standing Order that defines the process for approval of TSCA Analytical Waste to 219-S.

Completed the replacement of the 219-S filter housing on April 11, 2002, 19 days ahead of schedule. A draft Notice of Correction closure letter documenting completion of the project is being prepared for submittal to RL and subsequent submittal to the WDOH.

The Notice of Construction Conditions and Limitations (air permit) for operation of the radiological decontamination trailer was approved by the WDOH on April 11, 2002. The approval letter contains 23 conditions/limitations the facility must comply with during operation of the unit.

222-S is in the final stages of obtaining data to support the Air Operating Permit (AOP) Certification. FH Environment and Regulation assessed 222-S and WSCF on the process used to gather, review, and assess information to support the AOP Certification. No issues were found, and the compliance matrix was identified as a good practice. Facility activities are well on schedule to support the May 9 certification date.

Transferred waste from the 219-S Tank System, Tank 102 to the double-shell tank (DST) system on April 8, 2002. The next transfer has been tentatively scheduled for August 23, 2002, but is dependent on analytical turn-around times. The transfer date has been entered into CHG's DST/single-shell tank (SST) Integrated Schedule.

222-S is establishing a 219-S Tank System Sampling and Analysis Plan (SAP) to define the parameters for analysis. The SAP was approved by CHG. The SAP, HNF-10426, was issued on April 18, 2002.

Scheduled the exhaust fan EF-3 duct and damper repairs for late May 2002. Upon completion of EF-3 repairs, we will commence repairs on the EF-1 damper. The repair cost will have significant impact on the maintenance budget. This round of duct/damper repairs is estimated at $30K.

The Environmental Stewardship Award judging committee toured 222-S Laboratory on April 17, 2002. The committee expressed satisfaction with the progress that 222-S has made in their various waste initiatives. The winners of the award will be announced at the Safety Expo.

INTERFACE MEETING

WSCF LABORATORY REPORT

Operations

Operations are ongoing, work has begun to prepare for installation of two new stack sampling systems. They are expected to be installed and operational by the end of May or early June.

Analytical

IRIS ICP/AES

The IRIS is the ICP/AES previously used at the weather station is being returned to service at WSCF. This instrument has been setup in room N16 and will provide a backup to the ICP in room N12 and is expected to expand our ICP capability by achieving lower detection limits and a broader array of elements. Vendor is scheduled to complete installation the week of April 22.

Installation of HP ICP/MS in WSCF

The instrument should be delivered to WSCF May 9th.

Installation of DX 600 Ion Chromatographs at WSCF

One instrument is being installed for anion analysis and the other instrument is being installed for cation analysis. Completion of anion method for new DX-600 extended to May 31 due to very high and unexpected demand for customer required analysis support.

Oil & Grease Analysis using EPA Method 1664

Sample extraction with Freon solvent for oil & grease analysis is due to be phased out. A Horizon, model 4790 solid phase extraction system using method 1664 has been installed at WSCF as a replacement. Initial testing has shown good recovery. A procedure has been drafted and MDLs determined. Implementation of the new method is hampered by conflicting priorities on the principal scientist. Current requests for this analysis are met by using up old stock of Freon solvent, but laboratory clients have requested a transition to the new method. Performance test samples need to be analyzed and a readiness audit conducted.

Environmental

Continued working streamlining waste management in the labs. Compatibility reviews are complete and work is beginning on combining certain waste streams that go to ETF. This will ultimately result in a reduction in the number of SAAs being managed.

The FH review team for the Environmental Stewardship Award toured WSCF on Tuesday, April 16, 2002. The team spent time reviewing the application, talking to facility personnel and walking through the laboratories. The tour went very well with many positive comments coming from the team. The winner will be announced at the Safety Expo in May.

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